

CLAIMS

1/ Hybrid macromolecule characterized by the fact that it carries either the active domain of a receptor for a given virus, or the active domain of a molecule which can bind to the virus, or the active domain of a receptor of a ligand intervening in a pathological process, coupled to albumin or a variant of albumin.

2/ Macromolecule according to claim 1, in which the receptor is a membrane receptor.

3/ Macromolecule according to claims 1 and 2, characterized by the fact that such a macromolecule is substantially proteinic.

4/ Macromolecule according to claims 1, 2 or 3, in which the coupling is covalent.

5/ Macromolecule according to claim 4, in which the covalent coupling is accomplished by a peptide linkage.

6/ Macromolecule according to claims 1, 2, 3, 4 or 5, in which the active domain of the receptor is the active domain of a receptor normally used by a virus for its propagation in the host organism.

7/ Macromolecule according to claims 1, 2, 3, 4 or 5, in which the active domain of the receptor is the active domain of a receptor intervening in the internalization of infectious virions complexed to immunoglobulins.

8/ Macromolecule according to claim 7, in which the active domain of the receptor is the active domain of a receptor of the type FcγRIII.

9/ Macromolecule according to claim 8, in which the active domain of the receptor is the active domain of the receptor CD16.

10/ Macromolecule according to claim 1, 2, 3, 4 or 5 in which the active domain of the receptor is the active domain of a receptor of a factor intervening in an oncogenic process.

11/ Macromolecule according to claim 10, in which the active domain of the receptor is the active domain of a tyrosine kinase-type receptor.

12/ Macromolecule according to claim 11, in which the active domain of the receptor is the active domain of the proto-oncogene c-erbB-2.

13/ Macromolecule according to one of the claims 1 through 12, characterized by the fact that the albumin used is of human origin.

14/ Macromolecule according to one of the claims 1 through 6, in which the receptor is all or part of the CD4 molecule used by the HIV-1 virus for its propagation in the host organism, including all artificial variations of the region of interaction with the virus which have a higher than normal molecular affinity for the virus.

15/ Macromolecule according to claim 14 in which the receptor is made up of the V1 and V2 domains of the CD4 molecule.

16/ Macromolecule according to one of the claims 1 through 15, characterized by the fact that it carries more than one active domain of the receptor or of the molecule capable of binding the ligand.

17/ Macromolecule according to one of the claims 1 through 16, in which albumin or the variant of albumin is localized at the N-terminal end.

18/ Macromolecule according to claim 17 in which a dimerization or polymerization function is incorporated to permit an increase in the local concentration of the active domain of the receptor of the virus or of the receptor of the ligand associated with an oncogenic process.

19/ Macromolecule according to claims 1 to 18 characterized in that it is devoid of proteolytic cleavage sites between the active domain of the receptor or of the molecule capable of binding said ligands, and albumin or said variant of albumin.

20/ Macromolecule according to one of the claims 1 through 19, characterized by the fact that it is obtained by cultivating cells that have been transformed, transfected, or infected by a vector expressing such macromolecule.

21/ Macromolecule according to claim 20, in which the transformed cell is a yeast.

22/ Macromolecule according to claim 21, in which the yeast is a strain of the genus Kluyveromyces.

23/ Macromolecule according to claim 21, in which the vector is an expression vector derived from plasmid pKD1 in which the

genes A, B and C, the origin of replication, and the inverse repeats have been conserved.

24/ A macromolecule according to one of the claims 1 through 23, for use as a pharmaceutical.

5 25/ For use as a pharmaceutical according to claim 24, a macromolecule composed of human albumin or an albumin variant, and the V1 domain of the CD4 molecule.

10 26/ For use as a pharmaceutical according to claim 25, a macromolecule composed of human albumin or an albumin variant, and the V1V2 domains of CD4.

27/ Cells that have been transformed, transfected, or infected by a vector expressing a macromolecule according to one of the claims 1 through 19.

15 28/ Cells according the claim 27, characterized by the fact that these cells are yeasts.

29/ Cells according to claim 28, characterized by the fact that the yeast is of the genus Kluyveromyces.

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